FAOAIDEnews
Avian Influenza Disease Emergency

Update on the Avian Influenza situation (As of 10/10/2005) – Issue no. 34

Beach ducks, Thai Binh Province, Viet Nam
Photo: A. McLeod

The information summarized below is gathered from official and non official sources, which are quoted in the text. AIDE news is prepared by the FAO Technical Task Force on Avian Influenza.

1. Latest information on Avian Influenza

Outbreaks of H5N1 Highly Pathogenic Avian Influenza (HPAI) have resulted in deaths/culling of domestic poultry in Russia, Kazakhstan and cases in wild birds were reported in Mongolia. The number of human fatalities in Indonesia is increasing. Indonesia has declared an ''extraordinary'' status.

Country situation

Indonesia: At Ragunan Zoo in South Jakarta, 19 bird samples out of 27, including pygmy chickens and eagles, were found positive for avian influenza (AI) on 18 September. The zoo has been closed until 17 October while testing of 2,100 birds in the zoo and disinfection are carried out. Blood samples from a worker of the Ragunan Zoo and a street vendor who did his business around the zoo, tested positive. Hundreds of domestic poultry in Kediri City, East Java Province were reported to have died in early October.

A 37-year-old woman* who died on 10 September was positive for AI. She lived in a southern Jakarta suburb near a chicken slaughterhouse, a few kilometres from Tangerang Town. Her nephew, an 8-year-old boy* was also found positive. No recent poultry deaths had been reported in chickens and ducks in the area. Three girls also tested positive. One of the girls, a 5-year-old who died on 28 September lived in a house near poultry farms. A 27-year-old woman* from Cakung, eastern Jakarta suburb, who died on 26 September was confirmed positive for H5N1. She kept 15 chickens around her home which had died recently. A 4-year-old boy from Lampung province is suspected to have contracted H5N1. As of 26 September, of 42 suspected human cases, 10 patients have tested positive of whom six have died. Most of those thought to be infected in Jakarta had contact with birds or poultry. (* were confirmed and posted on the WHO website)

On 19 September, Indonesia declared an ''extraordinary'' status. The Indonesian President has ordered culling in heavily infected areas, and has launched a bird flu eradication campaign. Chickens on infected farms must be culled when the number of infected chickens reaches 20% of total. The budget of Rp134 billion proposed by the Ministry of Agriculture to combat AI has been approved, and will be partly used for the culling in heavily infected areas and biosecurity practice. Following the recent refusal of some pig farmers to hand over their suspected animals for slaughter, it was reported that the government will review a 1997 law on farming. The Ministry of Health has prepared a 'National Influenza Pandemic Preparedness Plan'. (08/10/05, Source: Government, FAO, WHO, media websites)

Russia: HPAI was first detected on 18 July 2005. On 11 August the first integrated poultry farm in Russia became affected. The total number of bird deaths recorded since 21 July has exceeded 10,000. As of 20 August, 50 outbreaks in six regions have been confirmed and 118,287 domestic poultry have been destroyed in Novosibirsk, Omsk, Altai, Tyumen, Kurgan and Chelyabinsk regions. Deaths of wild ducks have been reported in all

infected areas. By 5 September, the disease was confirmed in 47 towns and villages, and suspected in another 80. Infected birds and suspected cases were culled, affected farms were disinfected, movement control of poultry was imposed and many other bird populations in the region are being screened. Border controls have been stepped up on railways, highways and international airports. Russian institutes sequenced the virus and the result showed that the virus was analogous to the sequence of the HPAI H5N1 virus found at Qinghai Lake, China from migratory water birds in May/June. Areas where outbreaks were confirmed/suspected are the following: Novosibirsk region (Dovolnoye, Chistoozernoye, Kupinsky, Zdvinsky, Kolpashevsky, Verkhneketsky, Krivosheinsky, Tomsky districts); Omsk region (Sargatskoye, Maryanovka, Okoneshnikovo districts); Tyumen region (Berdyuzh, Armizonskoye, Kazanskoye, Sladkovo districts and seven lakes); Altai Territory (Zavialovo, Mamontovo, Romanovo, Bayevo, Yegorievskoye, Uglovskoye, Volchikha, Rubtsovsk, Novochikhinsky districts); Kurgan region (Chistoozernoye, Lebiazhye, Almenevo, Kurtamysh, Makushino, Lebiazhye, Petukhovo districts, Butyrino village, Sagittarius, Warm and Cockerels settlements); Chelyabinsk region (Oktyabrskoye, Uvelskiy, Kursk Oblast, and Barsuchye village, Maloye Shumakovo village, Krasnoarmejskogo area). Deaths of birds at Utyatskaya poultry factory were reported in the Kurgan region on 6 October. So far 100,000 poultry were culled. As at 3 October, in seven towns and villages in Altay Territory; two in Omsk Region; one in Chelyabinsk Region and 19 in Novosibirsk Region still remain under quarantine. The suspected cases in the following areas either tested negative or was otherwise diagnosed: Surgut district, Khanti-Mansi region; Orenburg region; Stavropol, Iki-Burul district, Kalmykia region (death of birds were diagnosed as Newcastle disease). As at 26 September, 14 towns and villages in Altai, Tyumen, Omsk, Novosibirsk and Chelyabinsk still remain under quarantine. On 30 September, Russia and the World Organization for Animal Health (OIE) began joint expeditions to study the causes and the patterns of AI. Altai Territory has begun vaccination against bird flu in humans. All employees of poultry farms were to be vaccinated by the end of August. Russian poultry breeders have suffered losses of more than US$5 million. (07/10/05 source: media websites)

Districts with H5N1 outbreaks in 2005 in Russian Federation and Kazakhstan

Kazakhstan: HPAI outbreaks began on 22 July 2005. Deaths of 400 poultry were reported at a poultry farm with 2,350 geese and 450 ducks in Golubovka Village, Irtysh District, Pavlodar Region were confirmed to be HPAI H5N1. All the remaining fowls in the farm were culled. Outbreaks were also suspected in Takyr Village, Lebjazhenskogo, Pavlodar Region (poultry); Dubrovka Village, Talapker Village (>100 geese, hens and ducks died in the period of 8-15 August) and Dubrovnoye Village in North Kazakhstan Region; Lake Vinogradovka (37 wild ducks were found dead), Vinogradovka Village (antibodies were found in birds in 75 farms), Pukhalskoye Village (loss of orientation has been reported in birds near the lake) and Ushsart Village in Akmola Region; Tumsyk village, Karaganda Region (20 domestic poultry and 3 wild birds have died); and Alakolskiy Region, Almaty Region (2 wild ducks have been found dead at a lake). Control and preventive measures were being taken and the border controls with the Novosibirsk and the Omsk areas of Russia have been strengthened. A coordination board for the fight against bird flu has been set up under the Emergency Ministry. On 8 September,

quarantine of the affected area was lifted. (30/09/05, Source: Government, media websites)

Mongolia: Deaths of migratory birds at Erhel Lake, Alag-Ederne County, Huvsgel Province and Khunt Lake, Saikhan County, Bulgan Province were reported in early August. A total of 86 wild birds including Bar-headed geese (*Anser indicus*) and Whooper swans (*Cygnus cygnus*) were found dead, and H5N1 was confirmed in samples taken at Erhel Lake. The deaths started at the end of July. As of 17 August, a total of 150 bird deaths had been reported in Huvsgel Province. On 22 September, five geese, two shelduck and four gulls were found dead at the lake. Deaths of birds have been reported by public media in south Gobi Desert Area; Omnogobi Province; Hentiy Province; Baganuur and Chingeltey districts of Ulaanbaatar; and Ormiin Tsagaan Lake, Bulgan Province during August but none of them has been confirmed as being caused by HPAI. (30/09/05, Source: Government, FAO, media websites)

China: An outbreak of HPAI H5N1 was reported in a farm close to Lhasa, Tibet Autonomous Region on 10 August. A total of 133 birds had died and 78,805 chickens in three km radius were culled. The farm was quarantined and poultry within a three to eight km radius were vaccinated with inactivated H5N2 vaccine. (10/08/05, source: Government, FAO)

Viet Nam: Local veterinary agencies culled 4,620 poultry, mainly ducks and chickens, at the end of July after they detected small outbreaks of bird flu in Hanoi and Can Tho, Ben Tre and Dong Thap Provinces. Outbreaks were detected in two small farms in Binh Duong and Nghe An Provinces, and 2,990 birds were culled. The specimens of three Owston's Palm Civets (*Chrotogale owstoni*) which died in late June 2005 at the Cuc Phuong National Park, Ninh Binh Province were sent to a laboratory in Hong Kong and were found positive for the H5N1 virus. The civets were not fed any type of poultry. Other animals at the park, including chickens and other birds, were tested but none of them were found positive. It was reported that 50 percent of water fowl transported into Hanoi and 10 percent of those being raised there, tested sero-positive for H5. The Government is undertaking a VND275 billion (US$17.3 million) program to vaccinate 160 million poultry against HPAI in 47 high-risk provinces. The vaccination is targeted to be completed by November. All poultry kept for over 70 days, including fighting cocks, will be vaccinated.

A 49-year-old woman from Quoc Oai district, Ha Tay Province showed symptoms of the disease on 15 July and tested positive for H5N1 virus. A 30-year-old man from Tan Xuan Commune, Ben Tre Province who died at the end of July 2005 tested positive for the H5N1 virus. It was reported that the man had slaughtered sick fighting cocks. A 35-year-old man* from Ba Tri district, Ben Tre Province who died on 31 July after slaughtering two dead chickens on 25 July tested positive for H5N1. A 58-year-old man from Soc Son District, Hanoi died on 24 August. He has tested positive for H5. (10/10/05, Source: Government, FAO, WHO, media websites. * was confirmed and posted at the WHO website)

Thailand: The second round of nationwide surveillance, which began on 1 July 2005, revealed the presence of HPAI virus in Chainat, Suphanburi, Kampaengphet, Ayudhaya, Saraburi and Nakhonpathom Provinces. All six affected provinces were located in the central poultry zone of the five poultry zones which have been established for effective movement control and farming management. Since 1 August until now, 29,573 poultry have died and 198,351 have been culled. At a port in Chiang Rai Province, customs found 140 bottles of Chinese AI vaccine smuggled for vaccination of fighting cocks. (07/10/05, Source: Government, FAO, media websites)

Cambodia: In August, ducks samples from Kampong Cham and in Prey Veng Provinces were found positive to H5N1. The first survey in wild bird is on-going in Kampong Cham in collaboration with Wildlife Conservation Society (WCS). Surveillance in sentinel villages and duck flocks, market monitoring in Phnom Penh, clinical surveillance in commercial

farms and Training for Veterinary Animal Health Workers have been continued. (07/10/05, source: Government, FAO)

Update: Table 1. Reported cases of HPAI in wild birds in 2004/2005
(update of In the AIDEnews issue 33, page 3, Table 1)

COUNTRY	SPECIES	TYPE AI	DATE
China (Hong Kong SAR)	black-headed gull, Little Egret, Greater Flamingo, Grey Heron, various waterfowl, Pigeon and Tree Sparrow	H5N1	late Dec 2002 to Jan 2003
China (Hong Kong SAR)	Peregrine Falcon	H5N1	Mar 2003
China (Hong Kong SAR)	Peregrine Falcon	H5N1	Jan 2004
China (Hong Kong SAR)	Grey Heron	H5N1	Nov 2004
Cambodia	Wild birds in a zoo collection, including grey-headed fish eagle, serpent eagles, hawk eagles, spotted wood owls, brown fish owl, spot-bellied eagle owl, and buffy fish owls and psittacines	H5N1	Feb 2004
Japan	Crows	H5N1	Mar 2004
Korea	Magpies	H5N1	Mar 2004
Thailand	Pigeons, Open-Bill Storks, Little Cormorant, Red-collar Dove, Scaly Breasted Munia, Black Drongo	H5N1	Dec 2004
China (Hong Kong SAR)	Grey Heron	H5N1	Dec 2004
China (Hong Kong SAR)	Chinese Pond Heron	H5N1	Jan 2005
China	Bar-headed geese, Great black-headed gulls, Brown-headed gulls. Ruddy shelducks and Great cormorants	H5N1	Apr 2005
Mongolia	Bar-headed geese and Whooper swan	Influenza A subtype H5	Aug 2005
Russia (Siberia)	Wild birds	H5N1	Aug 2005
Kazakhstan	Wild birds	H5N1	Aug 2005

--- Other strains/strain not yet confirmed ----------

Turkey: On 7 October, the authorities announced that nearly 2,000 turkeys have died at a farm near a natural park in Balikesir Province and that H5 was confirmed. All animals on this farm were slaughtered, and other animals in the village have been quarantined. A local crisis centre has been established. (10/10/05, source: media websites)

Finland: One hundred seagulls were found sick/dead in Oulu City in mid-August 2005 and a sample was PCR positive for Influenza A (H13) virus. Finland collects 2,300 wild bird samples annually under the community AI surveillance programme. There were no commercial poultry farms in the area. (30/08/05, source: media websites)

Democratic People's Republic of Korea (DPRK): The result of the analysis made by the Australian Animal Health Laboratory (FAO/OIE Reference Laboratory for HPAI) showed that the AI strain which caused an outbreak in March 2005 was H7N7. (14/09/05, source: FAO)

Japan: Since the discovery of an LPAI H5N2 infected farm on 26 June 2005, a series of control measures such as 5 km radius movement control, investigations and disinfection of infected farms have been taken. Although with LPAI, as Japanese regulation stipulates that any H5 or H7 infection must be considered as the presence of a "notifiable disease", stamping out measures were taken on farms and open-type farms that were virus- and/or PCR positive. Nation wide active surveillance on AI was also conducted, and a total of 2,409 farms including over 60% of commercial poultry farms (excluding broiler farms) with over 1,000 chickens in Ibaraki prefecture (where the index case was found) and five other adjacent prefectures; and >30% of layer farms in the rest of the prefectures were tested. The surveillance has finished by the end of September and 31 H5N2 infected farms, all in Ibaraki prefecture, were identified. Approximately 1,570,000 chickens have been destroyed. (30/09/05, source: Government, prefectures' websites)

--- Other information ----------

Egypt: Approximately 30,000 turkey chicks have been quarantined on 6 October due to a suspicion of avian influenza outbreak but the flock was confirmed negative for avian influenza. (10/10/05 source: FAO, media websites)

Iran: Deaths of migratory birds have been reported in Azerbayjane Gharbi Province (West Azarbayedjan) along Aras River. The birds came from northern countries. A national headquarters against bird flu was immediately set up. To date, no evidence of avian influenza have been reported or detected on poultry farms. (10/10/05 source: media websites)

Romania: On 7 October, three domestic ducks were found positive for avian influenza in domestic birds in Ceamurlia de Jos Village, Danube Delta. Around 500 chickens were destroyed, and 2,500 turkeys as well as pigeons will be slaughtered. A three-kilometre radius has been quarantined. (10/10/05, source: media websites)

2. What next?

- **FAO concerned about bird flu spread in Indonesia**

  AI has become endemic in Indonesia and is continuing to spread. In view of this worrisome situation, it will be necessary for the government to improve its virus control policies and strategies. The fight against bird flu should become a national priority and veterinary and civil authorities should be provided with the full power to enforce disease control measures. Local veterinary services should be strengthened to enable them to discover disease outbreaks at a very early stage and to immediately carry out control measures such as culling and targeted vaccination in high risk areas. The national vaccination strategy should be reviewed to ensure that only quality vaccines are used, in accordance with the World Animal Health Organization (OIE) standards. More financial resources should be made available for the control of bird flu in animals to prevent a human pandemic. Four people have died of bird flu in Indonesia and others are suspected of having the virus. The involvement of around 30 million backyard village households keeping around 200 million chickens would be a major challenge. Major public awareness campaigns should be launched to inform farmers about risks and control strategies. The spread of the virus through marketing channels, especially in densely populated areas such as Java, should be further investigated. Together with the Indonesian government, FAO is currently developing a national AI control project that will require around US$11 million.

  The full text is available at: http://www.fao.org/newsroom/en/news/2005/107810/index.html

- **Global strategy to fight bird flu in animals faces serious funding gap**

  The global strategy for the control and prevention of HPAI remains largely under-funded despite important contributions pledged by some donors. The Global Strategy for the Progressive Control of Highly Pathogenic Avian Influenza launched by FAO, the World Animal Health Organization (OIE) in collaboration with the World Health Organization (WHO) in May 2005, for control programmes in southeast Asian countries, has called for over US$100 million for the next three years. To date, pledges amount to US$ 20 million. It makes sense to stockpile antiviral drugs to protect humans against a potential AI pandemic, but at the same time we have to contain the virus at source, in the animal reservoirs, to reduce the risk to people. Strong national veterinary services are essential to improve the early detection of AI. The rapid analysis of virus samples requires equally rapid resources to respond quickly to AI outbreaks. Countries in Asia are doing their best to control the virus but they cannot and should not be expected to do this job on their own. FAO has called again upon countries located along the flyways of migratory birds to set up early warning and surveillance programmes. India and Bangladesh, Central Europe, the

Middle East and parts of Africa should develop national prevention, early detection and rapid response plans. These national activities will require additional donor support of around US$ 50 million for the next three years. The major part of these funds should be used for awareness building, training, protective equipment, the upgrading of laboratories and the surveillance of wildlife and poultry farms. On the global level, monitoring, coordination and the work of reference laboratories should be supported.
The full text is available at: http://www.fao.org/newsroom/en/news/2005/107804/index.html

- **Prevention measures -** Many countries (e.g. Albania, Belarus, EU, Georgia, Kyrgyzstan, Philippines, Tajikistan, Ukraine, and Uzbekistan) have introduced import restrictions after HPAI outbreaks were reported in Russia and Kazakhstan. Uzbekistan has stepped up the veterinary control over slaughtering poultry and chicken product sales at markets, and banned wild bird hunting. The Philippines has ordered tighter surveillance of the illegal trading of exotic birds. The Republic of Korea will issue a bird flu alert in preparation for the arrival of migratory birds in winter. Special monitoring and quarantine will take place from November through February. Association of Southeast Asian Nation (ASEAN) pledged US$ 2 million for regional funds to curb animal diseases, including avian influenza and set-up a special task force led by Malaysia. India has tightened its surveillance against avian influenza. Nepal has set up a national committee and directed the regional health directorate to take precautions. Iran has warned poultry farmers to fence off their birds and stop them mixing with wild birds. Iran's veterinary authority has requested that every sick bird found be sent for testing. The United Arab Emirates has updated the Abu Dhabi Action Plan to monitor and prevent the entry of AI which includes surveillance, emergency response plans, and the establishment of a Center for Infectious Diseases. Turkey has organised a simulation exercise on AI in Balikesir Province in coordination with the European Commission. The EU has assessed the risks of spread of bird flu within the area and approved all the avian influenza surveillance plans submitted by member states. The Netherlands has ordered poultry to be kept indoors or under nets. Risk zones have been defined as areas within one km of a body of water or any place where migratory birds gather. Germany has developed an emergency plan against bird flu and announced restrictions on keeping poultry outside. Sweden and Switzerland have intensified their monitoring of AI in wild birds. The USA has been testing migratory birds in Alaska. On 14 September at the United Nations' 2005 Summit, the President talked about the formation of a new partnership aimed at preventing a pandemic of AI. (source: media websites)

- **Promote Basic Biosecurity** – As the fear of "Bird Flu" spreads, there is a need to explain to ordinary people, children, housewives and poultry farmers what they can do to prevent the disease. The Indonesian Prime Minister called on nations to promote the habit of washing hands with soap, to protect children and elders from sick poultry, to cook poultry meat and eggs well before eating them, to report to the authorities if they found sick poultry, to increase cleanliness at poultry coops and to spray them with disinfectants. Several countries have used short radio programmes in local languages to promote people's awareness on everyday practice to prevent the disease. Easy-to-understand messages to improve daily hygiene are now important.

- **Basic and Applied Scientific Research**

  Several independent studies, including decisive field studies carried out by FAO, identified the domestic duck as a reservoir and maintenance host for the H5N1 virus. These findings proved significant in underlying a research programme to better understand the transmission mechanisms of the role of ducks and there from develop intervention measures. That aspect of the programme could be summarised as the need for better understanding of the basic immune response in domestic ducks, response to different vaccination regimes, validation of diagnostic assays, and even survival of the virus in different water types. In addition, the development of more sensitive, inexpensive. robust diagnostic tools, and can be used under "chicken-coop" or "pond side" conditions, would be advantageous, as would vaccines that protect

quickly following their administration. In addition, oral or eye-drop vaccines would be an improvement over existing vaccination regimes. Also of concern are the possible roles of other species (i.e. pigs and ferrets) on viral isolates obtained from outbreak areas, and a better study on the molecular basis for host range, virulence factor genes, and mutation adaptations. It is also possible that research could be promoted on the development of an AI–resistant transgenic chickens or ducks, although more pressing at the moment is the role of wild birds in the transcontinental movement of the virus which would require the formation of multidisciplinary teams undertaking filed studies, sampling, banding or placement of telemetry units, releasing, and monitoring migrations and behaviour. A great cause for concern are the migratory pathways followed by infected birds, but what risk they pose we do not really know, as there is little evidence that singles out one species of wild duck from another. Studies on dead wild birds have been conducted in several countries since the 1980's but to date, a virulent virus has not been found in healthy (and therefore capable of flight and migration) birds. FAO has taken a bold step to provide warning messages and press releases to other regions of the world that may be recipients of wild migratory fowl in the attempt that surveillance, prevention and detection measures, development of contingency plans before an outbreak, are undertaken. This thereby averts possible decimation of a poultry industry so important to people's livelihood and a possible spill over into the human population. In late August, 2005, FAO has allocated emergency funds to establish Technical Cooperation Programme (TCP) projects for AI prevention and detection networks for Southern Europe, Near East, Northern, Western, Central, and Eastern Africa. This support represents an initial input that can only be sustainable if more investment on animal health services is assigned by the Governments and if additional funding from bilateral and multilateral donor agencies is forthcoming.

3. Actions taken – follow-up

- **Regional Training in basic epidemiology and data analysis; advanced epidemiology and data analysis; and epidemiological data management** were organised by FAO in collaboration with CIRAD (France), Massey University (New Zealand) and Royal Veterinary College (UK). The objective of this series of workshops was to strengthen national capacity in analysing epidemiological data to enhance countries' disease control measure and prevention. Cambodia, China, India, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand, Timor Leste and Viet Nam participated.
- **The Launch Meeting for TCP/RAS/3008 "Diagnostic Laboratory and Surveillance Network Coordination for Control and Prevention of Avian Influenza in South Asia"** was held in India in August 2005 to set up a South Asian sub-regional network on diagnosis and surveillance. The meeting was attended by the Chief Veterinary Officers from the region, Heads of the National Veterinary Laboratories and Surveillance teams from countries of the Region, experts from OIE and FAO reference laboratories and collaboration centres, wildlife experts, experts from WHO, FAO experts from Rome and Bangkok.
- **The FAO-APHCA/OIE Regional Avian Influenza Economic Assessment Workshop** was held on 26-29 September 2005 in Bali, Indonesia to share experience of planning and funding AI control measures including strategic vaccination, compartmentalisation, zoning and biosecurity in wet markets.
- **The Inception workshop for the FAO-ADB Project "Control of Transboundary Animal Diseases in the Greater Mekong Sub-region"** (GCP/RAS/206/ASB) was held in Thailand from 21 to 24 September 2005. Participants from the region (Cambodia, China, Lao PDR, Malaysia, Myanmar, Thailand and Viet Nam), Australia, ADB, ASEAN and FAO experts from FAORAP attended the workshop.
- **Workshop on Remote Sensing and HPAI Risk Assessment** was held on 3-5 October 2005 at FAO, Rome. Possibility of utilising survey and remote sensing data for HPAI risk assessment in China, Thailand and Viet Nam were discussed.

- **Quarterly Informal Donor Coordination Meeting** was held on 26 September at FAO Representative, Lao PDR.
- **Recent Missions (August-October)**:

> *We would be grateful if other organizations/countries could send us information on their assistance missions to the countries concerned. (e-mail to: Avian-Influenza-Registration@fao.org)*

[Regional]
- Dr N. Taylor (UK) FAO consultant (Epidemiology), Mission to Democratic People's Republic of Korea, Mongolia and Myanmar, To commence in the week of 10/10/05

[Cambodia]
- Dr Y. Froehlich (France) FAO consultant (Project Technical Adviser), Ongoing
- Dr Lu Huaguang (USA/China) FAO TCDC Consultant (Laboratory diagnostics), Ongoing

[China]
- Dr J. Lubroth, FAO AGAH (Rome) Senior Officer (EMPRES), FAO/WHO joint mission to Harbin Research Institute and Ministry of Agriculture on avian influenza viruses and collaborative research, 27/08-03/09/05
- Dr Guo Fusheng, FAOR (China) Project Coordinator, FAO/WHO joint mission on avian influenza viruses and collaborative research

[DPR Korea]
- Dr Guo Fusheng, FAOR (China) Project Coordinator (laboratory diagnosis), 04-15/10/05

[India]
- Dr J. Lubroth, FAO AGAH (Rome) Senior Officer (EMPRES), TCP/RAS/3008 Launching Workshop, 22-26/08/05
- Dr C. Benigno, FAO RAP (Bangkok) Animal Health Officer, Launching Workshop
- Dr J. Guitian (UK) Royal Veterinary College, Launching Workshop
- Dr L. Gleeson (Australia) Australian Animal Health Laboratory, CSIRO, Launching Workshop
- Dr I. Brown (UK) VLA-Weybridge, Launching Workshop
- Dr T. Mundkur (India) Wetlands International - South Asia, Launching Workshop
- Dr V. Prakash (India) Vulture Conservation Breeding Centre, Bombay Natural History Society, Launching Workshop
- Dr K.S.G. Sundar (India) Wildlife Protection Society of India, Launching Workshop

[Indonesia]
- Dr J. Lubroth, FAO AGAH (Rome) Senior Officer (EMPRES), APHCA meeting and FAO-APHCA/OIE Regional Avian Influenza Economic Assessment Workshop, 24-29/09/05
- Dr A. McLeod, FAO AGAL (Rome) Senior Officer (Livestock Policy), APHCA meeting and FAO-APHCA/OIE Regional Avian Influenza Economic Assessment Workshop
- Mr W. Schoustra, FAO AGAH (Rome) FAO consultant, APHCA meeting and FAO-APHCA/OIE Regional Avian Influenza Economic Assessment Workshop
- Dr. Hans Wagner, FAOR RAP (Bangkok), Senior Animal Production and Health Officer, APHCA meeting and FAO-APHCA/OIE Regional Avian Influenza Economic Assessment Workshop
- Dr. Carolyn C. Benigno, FAOR RAP (Bangkok), Animal Health Officer, APHCA meeting and FAO-APHCA/OIE Regional Avian Influenza Economic Assessment Workshop
- Dr W. Kalpravidh, FAO RAP (Bangkok), Project Co-ordinator, APHCA meeting and FAO-APHCA/OIE Regional Avian Influenza Economic Assessment Workshop
- Dr D. Hall, FAO RAP (Bangkok), FAO Consultant, APHCA meeting and FAO-APHCA/OIE Regional Avian Influenza Economic Assessment Workshop

[Pakistan]
- Dr B. Brandenburg (USA), FAO consultant, 17-30/09/05

[Philippines]
- Dr. S. Morzaria, FAO RAP (Bangkok), Chief Technical Adviser (GCP/RAS/206/ASB), ASEAN Senior Officers and the Ministers of Agriculture Meetings. To present the Global Strategy on the Progressive Control of HPAI for endorsement by ASEAN 26-30/09/05

[Viet Nam]
- Dr A. McLeod, FAO AGAH (Rome) Senior Officer (Livestock Policy), Supervision mission for AIERP, 17/10/05-2/11/05
- Dr V. Martin, FAO AGAH (Rome) Animal Health Officer (Infectious Diseases Emergencies), Supervision mission for AIERP, To commence in the week of 16/10/05
- Dr A. Tripodi (Germany/Italy), Project Coordinator, Ongoing
- Dr L. Allen (USA) FAO consultant (Veterinary epidemiologist), 22/08-17/09/05
- Dr B. Brandenburg (USA), FAO consultant, to commence in the week of 17/10/05

[Other regions]
- Dr J. Lubroth, FAO AGAH (Rome) Senior Officer (EMPRES), to discuss biosafety guideline for pandemic influenza strain vaccine production, WHO, Geneva, 19-20/09/05

4. Resources available

Relevant articles, publications and websites:

FAO

- A Global Strategy for the Progressive Control of Highly Pathogenic Avian Influenza http://www.fao.org/ag/againfo/resources/documents/empres/AI_globalstrategy.pdf
- The FAO/OIE/WHO Consultation on Avian Influenza and Human Health: Risk Reduction Measures in Producing, Marketing, and Living with Animals in Asia http://www.fao.org/ag/againfo/subjects/documents/ai/concmalaysia.pdf
- Second FAO/OIE Regional Meeting on Avian Influenza Control in Asia (23-25 February 2005, Ho Chi Minh City). The full text of the final report is available on: http://www.fao.org/ag/againfo/subjects/documents/ai/AI_2nd_RegMtg_HoChiMinhCity_Rep.pdf
- FAO Recommendations on the Prevention, Control and Eradication of Highly Pathogenic Avian Influenza (HPAI) in Asia http://www.fao.org/docs/eims/upload/165186/FAOrecommendationsonHPAI.pdf (233KB)
- Guiding Principles : Highly Pathogenic Avian Influenza Surveillance And Diagnostic Networks In Asia (FAO Expert Meeting 21-23 July 2004, Bangkok)
  English: http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/Guiding%20principles.pdf
  中文: http://www.fao.org/ag/againfo/subjects/zh/health/diseases-cards/Guidingprinciples.pdf
- FAO/OIE Emergency Regional Meeting on Avian Influenza Control in Animals in Asia (26-28 February 2004, Bangkok). The full text of the final report is available on: http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/HPAI_Bangkok.pdf
- FAO/OIE/WHO Technical Consultation on the Control of Avian Influenza (3-4 February 2004, Rome) The full text of the Conclusions and recommendations is available on: http://www.fao.org/newsroom/common/ecg/36647_en_experts.pdf
- AVIAN INFLUENZA IN MONGOLIA (Synthesis Report of Two Missions of Dr Les Sims, FAO Consultant) August 2005 http://www.fao.org/ag/againfo/subjects/documents/ai/AI in Mongolia.pdf
- Epidemiology of H5N1 Avian Influenza in Asia and Implications for Regional Control (Covering the period January 2003 to February 11, 2005) EpiCentre, Massey University http://www.fao.org/ag/againfo/subjects/documents/ai/HPAI?Masseyreport.pdf
- Manual on the preparation of national animal disease emergency preparedness plans http://www.fao.org/docrep/004/x2096e/x2096e00.htm
- Information for shipping international diagnostic specimens to the International Reference Laboratories (see appendix 2 of AIDEnews issue 5, 6 and 30, 31, available at: http://www.fao.org/eims/secretariat/empres/eims_search/simple_s_result.asp?infotype=37)
- FAO-EMPRES (Emergency Prevention System against transboundary animal and plant pests and diseases) Avian Influenza website: http://www.fao.org/AG/AGAInfo/programmes/en/empres/home.asp
- FAO AGAH Avian Influenza website: http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/special_avian.html

- FAO AIDEnews (Vol. 1 - 33)
  Available at: http://www.fao.org/eims/secretariat/empres/eims_search/simple_s_result.asp?infotype=37

OIE

- OIE/FAO International Scientific Conference on Avian Influenza (OIE Paris, France, 7–8 April 2005) Recommendations http://www.oie.int/eng/avian_influenza/OIE_FAO_Recom_05.pdf
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- OIE Technical Disease Cards: http://www.oie.int/eng/maladies/fiches/a_A150.htm

WHO

- Responding to the avian influenza pandemic threat. Recommended strategic actions http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_8/en/index.html
- WHO Inter-country Consultation - Influenza A/H5N1 in Humans in Asia. Manila, 6-7th May 2005 http://www.who.int/entity/csr/disease/avian_influenza/H5N1IntercountryAssessment.pdf
- WHO interim recommendations for the protection of persons involved in the mass slaughter of animals potentially infected with highly pathogenic influenza viruses http://www.who.int/entity/csr/disease/avian_influenza/guidelines/en/Avian%20Influenza.pdf
- Advice for people living in areas affected by bird flu or avian influenza (WHO) http://www.wpro.who.int/avian/docs/advice.asp
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- Avian Influenza - Disease and Control Strategies and Contingency Planning (intervet) http://www.avian-influenza.com/
- Avian Influenza - Its Causes, Effects & Control (Antec International) http://www.antecint.co.uk/main/avianflu.htm
- Biosecurity for the Birds (USDA Animal and Plant Health inspection Service, Veterinary Service) http://www.aphis.usda.gov/vs/birdbiosecurity/
- Biosecurity for Poultry Flocks (Joan S. Jeffrey, University of California, Davis, School of Veterinary Medicine) http://www.vetmed.ucdavis.edu/vetext/INF-PO_Biosecurity.html
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Annex 1

Information for shipping international diagnostic specimens

To the **Australian Animal Health Laboratory (AAHL)**

The Australian Animal Health Laboratory (AAHL) at Geelong, Australia is an OIE Reference Laboratory for avian influenza and Newcastle disease. It offers a wide range of diagnostic tests and facilities for handling these viruses to support countries in their disease control and eradication programs.

Type of specimen: Specimens submitted to AAHL for disease diagnosis may be either virus isolates made in the submitting country or clinical specimens, such as tissues or swabs, collected from diseased birds.

Import permit and packing: Copies of Australian import permits are available from AAHL by contacting aahl-accessions@csiro.au. All specimens must be packed in leak-proof containers in accordance with the appropriate IATA regulation and appropriately labelled. Suitable transport containers, packing instructions are also available from AAHL by contacting aahl-accessions@csiro.au. Copies of the import permit and other consignment details should be attached to the outside of the package to expedite clearance through Australian customs.

Notification of shipment: If submitting specimens please notify the accessions clerk on accessions@csiro.au, the Duty Veterinarian on dutyvet@csiro.au or Dr. Peter Daniels on +61 3 5227 5000 of the consignment details so that the specimens can be collected upon arrival in Australia. Alternatively send the information by facsimile to +61 3 5227 5555. Consignment details include the consignment note/air weigh bill number, courier/airline and expected arrival date.

Shipping address:

The Director
Australian Animal Health Laboratory
5 Portarlington Road
Geelong, 3220
Australia
Telephone 61 3 5227 5000
Facsimile 61 3 5227 5555
http://www.csiro.au/aahl

Contact for Avian Influenza: You may also wish to discuss the testing required with Peter Daniels (peter.daniels@csiro.au) or Paul Selleck (paul.selleck@csiro.au) on +61 3 5227 5000 prior to submitting the specimens.

Annex 2: Situation by Countries (as of 10/10/2005)

area	date of first official reporting to the OIE	type	species affected since the start of the outbreak	human case	Latest information[1)]		
					last known case suspected and/or confirmed	source of the latest information and OIE declaration	comments
Republic of Korea	12/12/03	H5N1	Layer, duck; virus isolated: magpie	no	24/03/04	Government, media websites, Declared to OIE	AHD/MAF informed OIE the negative result of the final serological testing of the sentinel birds on 19/07/04; Final report submitted to OIE on 21/09/04
		H5N2 (LP[3)])	Duck	no	01/12/04	Government, media websites, Declared to OIE	
Viet Nam	8/01/04	H5N1	Chicken, quail, duck, muscovy duck	yes	August 05	FAO[2)], Government	
Japan	12/01/04	H5N1	Chicken, crow	sero-positive	05/03/04 (crow)	Government and media website, Declared to OIE	All the movement restrictions lifted by 13/04/04
	01/07/05	H5N2 (LP)	chickens	no	08/09/05	Government and Prefecture website, Declared to OIE	
Taiwan Province of China	20/01/04	H5N2 (LP)	Chicken, duck, pheasant	no	09/03/04	Meeting report, media website. Declared to OIE	
Thailand	23/01/04	H5N1	Tiger, virus isolation: chicken, duck, goose, quail, turkey, stork. Surveillance: the Little Cormorant, Asian Openbill, Scaly-breasted Munia, Red Turtle-Dove, Black Drongo and pigeon.	yes	28/09/05	Government, FAO, media websites, Declared to OIE	
Cambodia	24/01/04	H5N1	Chicken, duck, goose, turkey, guinea fowl, wild bird	yes	April 05	Government, FAO	
Hong Kong SAR	26/01/04	H5N1	Peregrine falcon; Grey heron, Chinese pond heron	no	10/01/05	Declared to OIE	
Lao PDR	27/01/04	H5N1	Chicken, duck and quail	no	13/02/04	Government, FAO	
Pakistan	28/01/04	H7N3 H9N2 (LP)	layer; broiler	no	19/06/05	Government, FAO	
Indonesia	06/02/04	H5N1	Chicken, duck and quail; pig (without clinical sign)	Yes	18/09/05 (seropositive at zoo)	ProMED, media website	
China	06/02/04	H5N1	Virus isolation: chicken, duck, goose, quail, pigeon , pheasant, black swan; bar-headed geese, great black-headed gulls, brown-headed gulls, ruddy shelducks and great cormorants	no	01/08/05	Government, FAO, media websites, Declared to OIE	
Malaysia	19/08/04	H5N1	Chicken, fighting cocks (?)	no	19/11/04	Government, media websites, Declared to OIE	Final report submitted to OIE on 03/01/05
Democratic People's Republic of Korea	07/04/05	H7N7	Chicken	no	27/03/05	Government, media websites, Declared to OIE	Complete characterisation is awaited.
Philippines	15/07/05	H5(LP), H9 (LP)	duck	no			Seropositive ducks were found through routine surveillance. No active infection.

(continued)

area	date of official reporting to the OIE	type	species affected since the start of the outbreak	human case	Latest information[1)]		
					last known case suspected and/or confirmed	source of information and its OIE declaration	comments
United States of America	11/02/04	H7N2 (LP)	Chicken	no	11/02/04 (Delaware)	Delaware Department of Agriculture Statement; FAO.	Final report submitted to OIE on 15/05/04
		H2N2 (LP)	Chicken	no	03/02/04 (Pennsylvania)	Pennsylvania Department of agriculture website; ProMED	
	23/02/04	H5N2	Chicken	no	Late February 2004 (Texas)	FAO, Declared to OIE	USDA informed OIE the eradication of HPAI in Gonzales County, Texas on 01/04/04; 17/08/04
		H7N2 (LP)	Chicken	no	09/03/04 (Maryland)	Maryland Department of Agriculture News Release; FAO; Declared to OIE	Final report submitted to OIE on 15/05/04
		H7N3 (LP)	non-commercial	no	22/06/04 (Texas)	Texas Animal Health Commission website	
		H3N2	Turkey	no	17/09/04 (Missouri)	ProMED	
	10/06/05	H7N2 (LP)	Duck	no	10/06/05	ProMED	
Canada	19/02/04	H7N3 (LP)	Chicken	yes (conjunctivitis)	29/04/04 (British Columbia)	Government website. Declared to OIE	CFIA informed OIE that the identified zone is no longer considered as infected, as of 09/07/04; Final report submitted to OIE on 23/11/04.
	09/03/04	H7N3					
		H3 (LP?)	Turkey	no	01/06/05	ProMED	The virus was discovered during a routine testing matrix
Mexico	20/03/05	H5N2 (LP)	Chicken	no	July 2005	Web Media	
South Africa		H6 (LP)	commercial poultry	no	25/03/04	ProMED	
	06/08/04	H5N2	Ostrich	no	early December (Eastern Cape)	Web Media	Final report submitted to OIE on 30/10/05
Egypt		H10N7 (LP)	Wild duck	yes	18/04/04 (from survey sample)	ProMED	
Italy		H5N2 (LP)	Turkey	no	15/04/05 (Lombardia)	Web Media, Local Government	
Finland		H13 (LP)	seagulls		mid-August 2005	ProMED	
Russia	24/07/05	H5N1	chickens, turkeys, ducks, geese	no	30/08/05	Web media	Confirmation of H5N1 was reported by web media news
Kazakhstan	02/08/05	H5N1	geese, ducks	no	19/08/05	Web media	The quarantine in the affected area was lifted on 08/09/05
Turkey		H5	Turkey	no	06/10/05	Web media	

1) Official (OIE) and unofficial information (ProMED, press agencies, FAO tracking systems…), 2) FAO: FAO representative in concurrence with Government sources,
3) LP: low pathogenic strain, 4) Gphin: Global Public Health Intelligence Network (Health Canada)

Annex 3

- Donor Assistance –

Many institutions and governments have committed emergency assistance funds to help control HPAI outbreaks. FAO AIDE news is collecting information on donor assistance (financial, in kind or technical assistance) through FAO representations in Asian countries. FAO recognises that the tables below may be incomplete. We thank all donors and governments for their cooperation in providing additional complementary information.

Recipient countries (As of 30/09/05)

Cambodia

Donors	Amount (US$)	Description
FAO TCP	$387,075	TCP/CMB/3002 Emergency assistance for the control of avian influenza
ADB*	$91,940	Non-Trust Fund, under general coordination of FAO (for training, equipment and public awareness activities)
Australia	$50,000	AusAID through FAO Trust Fund (OSRO/CMB/402/AUL)
	$156,250	Strengthening surveillance and response capacities for Avian Influenza through WHO Cambodia
China	$50,000	Direct contribution to government (no details given)
France	$53,480	French Cooperation through FAO Trust Fund (OSRO/CMB/403/FRA)
Germany	$50,000	GTZ through FAO Trust Fund (OSRO/CMB/401/GER)
Japan	$56,000	Non-Trust Fund, grant assistance for grass-roots human security project for antiviral medicines & equipment
WHO	$3,000	PPE supplies/training, lab training for DAHPs investigating teams and Human Flu Vaccine purchase.

China

Donor	Amount (US$)	Description
FAO TCP	$387,097	TCP/CPR/3004 Emergency assistance for the control of avian influenza

DPRK

Donor	Amount (US$)	Description
FAO TCP	$218,000	TCP/DRK/3006 Emergency assistance for the control and prevention of avian influenza
Australia	$192,000	OSRO/DRK/503/AUL Australian emergency assistance for the control and prevention of avian influenza in the Democratic People's Republic of Korea

Indonesia

Donors	Amount (US$)	Description
FAO TCP	$388,170	TCP/INS/3001 Emergency assistance for the control of avian influenza
Australia	$2,597,657 (A$3,325,000)	Human health protection, antiviral supplies through WHO
		Provide training (2 virologists) in AAHL, Geelong, Australia
		- technical assistance, training, strengthening surveillance and response capacities through WHO Indonesia
		- dispatch 3 epidemiologists working with the Disease Investigation Center's staff members to assist the surveillance action plan - dispatch 1 virologist for bench training in DIC R-III, R-IV and R-VI (18 vets and assistants)
		- Provide training (2 field veterinarians) on HPAI in AVA, Singapore
		50,000 courses of anti-flu medication Tamiflu
China	$100,000	Vaccines, training, public awareness at off farm
Germany	$60,692	OSRO/INS/402/GER through FAO Trust Fund. Four trainings on clinical & gross pathology diagnosis (total 222 veterinarians)
Japan	$78,906	MAFF provided protective gear through grass roots aid fund
	$113,000	Public awareness campaign activities
	$10,000	Through JICA/Indonesia on diagnostic training (24 veterinarians)
		Expert team to provide advice on counter-measures
Netherlands		May provide veterinary experts in support of FAO operations.
	€89,000	The cooperation plan HPAI Indonesia 2005 (development of coping strategy, Monitoring and surveillance)
USA		Support through the provision of laboratory analysis available in Atlanta
World Bank		- avian influenza workshop in Bengkulu - training for field officers & farmers on clinical signs, vaccination & biosecurity measures in Bengkulu (3 districts)

Lao PDR

Donors	Amount (US$)	Description
FAO TCP	$384,125	TCP/LAO/3001 Emergency assistance for the control of avian influenza
ADB*	$50,000	Direct procurement of Personnel, Protective clothing and equipment
Australia		Through AusAID to invite two government veterinarian for training course
China	$50,000	Re-establishing poultry breeding farms
France	$53,000	For surveillance activities (OSRO/LAO/401/FRA)
Japan	$50,000	Through JICA
	$33,758	MoHLW through WHO
USA	$250,000	Direct contribution to WHO Regional Office (Manila)
WHO		Support for one veterinarian for a 2 month mission
	$11,050	In kind donation from WPRO

Pakistan

Donors	Amount (US$)	Description
FAO TCP	$387,370	TCP/PAK/3002 Emergency assistance for the control of avian influenza
China	$50,000	For strengthening the diagnostic/samples analysis capacities of the national labs.

Thailand

Donor	Amount (US$)	Description
FAO		Technical advice of experts
Japan		Experts & standard Antigen/reagents to assist avian influenza typing/sub-typing.

Viet Nam

Donors	Amount (US$)	Description
FAO TCP	$387,979	TCP/VIE/3003 Emergency assistance for the control of avian influenza
ADB*	$ 50,000	Protective gear
EC	$968,000	Protective clothing, lab equipment
Germany	$ 60,000	laboratory diagnostic equipment
Japan	$200,000	Tamiflu (anti-viral drug)
	$1.800.000	Japanese Social Development Fund (JSDF) to assist vulnerable households and strengthen community based early warning through the World Bank AIERP project
WHO		Unspecified in-kind support
World Bank	$170,000	Formulation mission for Avian Influenza Emergency Recovery Project
	$5,000,000	Avian Influenza Emergency Recovery Project (AIERP) for strengthening disease surveillance and diagnostic capacity; strengthening the poultry sector infrastructure to better cope with serious disease outbreaks; and safeguarding human health by improving public awareness and information
Denmark	nearly $130,000	Through DANIDA, in kind cooperation for avian influenza control in 14 provinces (sprayers, protective clothing, diagnostic kits for local veterinarians)
	more than $300,000	in kind cooperation of veterinary equipment (automatic cylinders, ice-boxes, antiseptic chemicals and protective clothes)
AFD		Assessment mission to support the HPAI situation in Viet Nam and to provide recommendations for short and long term by Agence Française de Développement (AFD), Centre de coopération internationale en recherche agronomique pour le développement (CIRAD) and Vétérinaires Sans Frontières (VSF) was funded by AFD
Republic of Korea	$30,000	to study measures to prevent and control bird flu
China		(Province of Taiwan) donated 600,000 tablets of Tamiflu
USA	$2,500,000	The U.S. Department of Health and Human Services provide US$ 2.5 million to enhance Vietnamese bird flu surveillance network over the next five years

Regional

Donor	Amount (US$)	Description
Japan	$1,610,083	MoFA through FAO Trust Fund for CMB, INS, LAO and VIE (OSRO/RAS/401/JPN)
Australia	$781,250	Strengthening the operations of the WHO Global Outbreak Alert and Response Network
	$390,625 (A$500,000)	Experts in epidemiology, animal health, virology, laboratory and public health to address Avian Influenza outbreaks; equipment/consumables through WHO WPRO
	$117,188 (A$150,000)	Enabling technical support and the provision of essential supplies to address Avian Influenza (diagnostic kits and PPE) for East Timor, Thailand and Myanmar through WHO SEARO
	$273,438 (A$350,000)	Responding to the epidemiological and diagnostic needs arising from the Avian Influenza outbreak at Australian Animal Health Laboratory (AAHL), Geelong
	$507,813 (A$650,000)	ASEAN-Australia Development Cooperation Program (regional capacity building to deal with infectious disease outbreaks)
	$3,906,250 (A$5million)	Strengthening the regions ability to identify and respond to outbreaks of emerging and resurging zoonotic diseases through WHO WPRO, ASEAN Secretariat and DAFF

Nether lands	$ 250,000	OSRO/INT/501/NET for ECTAD (with additional in-kind expert assistance)
FAO TCP	$384,231	TCP/RAS/3004 Emergency regional coordination assistance for control of avian influenza in southeast Asia
	$394,668	TCP/RAS/3006 Diagnostic Laboratory and Surveillance Network Coordination for Control and Prevention of Avian Influenza in Southeast Asia
	$395,502	TCP/RAS/3007 Diagnostic laboratory and surveillance network coordination for control and prevention of avian influenza in East Asia
	$394,444	TCP/RAS/3008 Diagnostic laboratory and surveillance network coordination for control and prevention of avian influenza in South Asia
	$398,307	TCP/RAS/3010 Emergency regional support for post-avian influenza rehabilitation
	$350,000	TCP/RAS/3014 Strengthening avian influenza control through improved transboundary animal disease information management system in Asia

EMPRES / Supra-Regional

Donor	Amount (US$)	Description
FAO TCP	$370,052	TCP/INT/3010 EMPRES Emergency Centre for Transboundary Animal Disease operations (ECTAD) – Coordination

* Asian Development Bank